CLAIMS

1. A method for long-range planning for a complex system, comprising:

defining at least one resource description, wherein a resource description comprises a group of resources that have similar characteristics, and wherein defining comprises specifying the characteristics, including at least one capability and at least one performance measure;

defining at least one work load; and

specifying at least one criteria to be satisfied by a long-range staffing plan; and

calculating an effect of applying the at least one resource description to the at least one work load, wherein the calculated effect includes at least one performance measure for the at least one work load, and an effective cost per hour.

2. The method of claim 1, wherein the complex system is a contact center, the at least one resource description includes an employee profile, the at least one work load includes a queue, and wherein the at least one capability includes a skill set.

3. The method of claim 2, wherein the at least one performance measure includes an efficiency percentage, and wherein applying the at least one resource description to the at least one work load includes staffing the at least one queue with the at least one employee profile.

1   4.   The method of claim 3, wherein the calculated effect further includes a

2   queue occupancy for each queue, and an estimated cost of the long-range staffing

3   plan.

1   5.   The method of claim 3, wherein calculating comprises:

2   adding a first employees from the at least one profile to a proposed schedule,

3   wherein there is an available work associated with each employee in the at least one

4   profile, and wherein the proposed schedule is for servicing the at lease one queue over

5   a predefined time period;

6   calculating an effect of adding the first employee, wherein adding an

7   employee includes distributing the available work associated with the employee

8   among the at least one queue;

9   adding a next employee from the at least one profile to the proposed schedule;

10   calculating an effect of adding the next employee taking into account the

11   effect of having added the first employee; and

12   iteratively adding additional employees to the proposed schedule and

13   iteratively calculating effects of adding the additional employees taking into account

14   each employee already added until the available work for every employee from the at

15   least one profile has been distributed.

1   6.   The method of claim 5, wherein calculating the effect of adding the

2   next employee includes redistributing available work among the at least one queue,

3   and recalculating a workload remaining.

1   7.   The method of claim 3, wherein the characteristics further include:

shrinkage, wherein shrinkage comprises various categories of time for which

an employee is paid, but during which the employee does not work;

burden, wherein burden comprises various categories of expenses associated

with the employee, including benefit expenses; and

wage.

8.   The method of claim 3, wherein specifying characteristics further

comprises specifying whether a profile may be hired into, and a time period required

to bring an employee hired into the profile to a predefined level of efficiency.

9.   The method of claim 3, further comprising displaying the calculated

effect of the long-rang staffing plan, comprising displaying for each queue of the at

least one queue for each of a plurality of predefined time periods:

a contact volume;

a predefined average handling time goal;

an actual service level; and

a required service level.

10.   The method of claim 9, wherein displaying further comprises

displaying calculated effects of more than one staffing plan on a single display for

comparison.

11.   The method of claim 10, wherein the calculated effects of each of the

more than one staffing plan are arranged as rows and columns, and wherein

3   displaying comprises placing corresponding rows from calculated effects of each of

4   the more than one staffing plan in proximity to one another.

1   12.   The method of claim 10, wherein the calculated effects of each of the

2   more than one staffing plan are arranged as rows and columns, and wherein

3   displaying comprises placing corresponding columns from calculated effects of each

4   of the more than one staffing plan in proximity to one another.

1   13.   The method of claim 4, wherein the estimated cost of the long-range

2   staffing plan includes a training cost that reflects a period of time required for an

3   employee to reach a predefined level of performance.

1   14.   The method of claim 5, wherein the contact center comprises multiple

2   queues and multiple types of contact media, wherein the skill set includes skills across

3   multiple queues and multiple contact media.

1   15.   The method of claim 14, wherein iteratively calculating effects of

2   adding the additional employees taking into account each employee already added

3   includes assigning additional employees across multiple queues and multiple contact

4   media.

1   16.   A system for long-range staffing planning in a contact center, wherein

2   the multi-contact center processes a plurality of contact queues comprising a plurality

3   of contact media, the system comprising:

4   at least one server comprising at least one storage device; and

5   at least one client processor coupled to the server through a network, wherein

6   the client processor is coupled to a plurality of storage devices, including a storage

7   device that stores instructions that, when executed, cause the at least one client

8   processor to,

9   receive a definition of at least one employee profile, wherein an

10   employee profile comprises a group of employees that have similar characteristics,

11   wherein the characteristics include a skill set and an efficiency percentage;

12   receive a definition of at least one queue, wherein the at least one

13   queue handles a plurality of contacts through a plurality of contact media;

14   receiving a specification of at least one criteria to be satisfied by a

15   long-range staffing plan; and

16   calculating an effect of staffing the at least one queue with the at least

17   one employee profile, wherein the calculated effect includes a service level for the at

18   least one queue, and an effective cost per hour.

1   17.   The system of claim 16, wherein the calculated effect further includes

2   a queue occupancy for each queue, and an estimated cost of the long-range staffing

3   plan.

1   18.   The system of claim 16, wherein calculating comprises:

2   adding a first employees from the at least one profile to a proposed schedule,

3   wherein there is an available work associated with each employee in the at least one

4   profile, and wherein the proposed schedule is for servicing the at lease one queue over

5   a predefined time period;

6   calculating an effect of adding the first employee, wherein adding an

7   employee includes distributing the available work associated with the employee

8   among the at least one queue;

9   adding a next employee from the at least one profile to the proposed schedule;

10   calculating an effect of adding the next employee taking into account the

11   effect of having added the first employee; and

12   iteratively adding additional employees to the proposed schedule and

13   iteratively calculating effects of adding the additional employees taking into account

14   each employee already added until the available work for every employee from the at

15   least one profile has been distributed.

1   19.   The system of claim 18, wherein calculating the effect of adding the

2   next employee includes redistributing available work among the at least one queue,

3   and recalculating a workload remaining.

1   20.   The system of claim 16, wherein the characteristics further include:

2   shrinkage, wherein shrinkage comprises various categories of time for which

3   an employee is paid, but during which the employee does not work;

4   burden, wherein burden comprises various categories of expenses associated

5   with the employee, including benefit expenses; and

6   wage.

1   21.   The system of claim 16, wherein the characteristics further include

2   whether a profile may be hired into, and a time period required to bring an employee

3   hired into the profile to a predefined level of efficiency

1   22.   The system of claim 16, wherein the instructions, when executed,

2 further cause the at least one client processor to display the calculated effect of the

3 long-rang staffing plan, comprising displaying for each queue of the at least one

4 queue for each of a plurality of predefined time periods:

5   a contact volume;

6   a predefined average handling time goal;

7   an actual service level; and

8   a required service level.

1   23.   The system of claim 22, further comprising displaying calculated

2 effects of more than one staffing plan on a single display for comparison as specified

3 by a user.

1   24.   The system of claim 23, wherein the calculated effects of each of the

2 more than one staffing plan are arranged as rows and columns and, in response to the

3 user specification, corresponding rows from calculated effects of each of the more

4 than one staffing plan are displayed in proximity to one another.

1   25.   The system of claim 23, wherein the calculated effects of each of the

2 more than one staffing plan are arranged as rows and columns, and, in response to the

3 user specification, corresponding columns from calculated effects of each of the more

4 than one staffing plan are displayed in proximity to one another.

1   26.   The system of claim 17, wherein the estimated cost of the long-range

2   staffing plan includes a training cost that reflects a period of time required for an

3   employee to reach a predefined level of performance.

1   27.   The system of claim 18, wherein iteratively calculating effects of

2   adding the additional employees taking into account each employee already added

3   includes assigning additional employees across multiple queues and multiple contact

4   media.

1   28.   The system of claim 16, wherein the storage device that stores the

2   instructions is accessed by the at least one processor through the network.

1   29.   The system of claim 16, wherein the storage device that stores the

2   instructions is the at least one storage device of the server.

1   30.   An electromagnetic medium containing executable instructions which,

2   when executed in a processing system, cause the system to generate effects of a

3   proposed long-range staffing plan for a contact center, wherein generating comprises:

4   defining at least one employee profile, wherein an employee profile comprises

5   a group of employees that have the same skills, and wherein defining comprises

6   specifying characteristics, including a skill set and an efficiency percentage;

7   defining at least one queue;

8   specifying at least one criteria to be satisfied by a long-range staffing plan; and

9   calculating an effect of staffing the at least one queue with the at least one

10   employee profile, wherein the calculated effect includes a service level for the at least

11   one queue, and an effective cost per hour.

1   31.   The electromagnetic medium of claim 30, wherein the calculated effect

2   further includes a queue occupancy for each queue, and an estimated cost of the long-

3   range staffing plan.

1   32.   The electromagnetic medium of claim 30, wherein calculating

2   comprises:

3   adding a first employees from the at least one profile to a proposed schedule,

4   wherein there is an available work associated with each employee in the at least one

5   profile, and wherein the proposed schedule is for servicing the at lease one queue over

6   a predefined time period;

7   calculating an effect of adding the first employee, wherein adding an

8   employee includes distributing the available work associated with the employee

9   among the at least one queue;

10   adding a next employee from the at least one profile to the proposed schedule;

11   calculating an effect of adding the next employee taking into account the

12   effect of having added the first employee; and

13   iteratively adding additional employees to the proposed schedule and

14   iteratively calculating effects of adding the additional employees taking into account

15   each employee already added until the available work for every employee from the at

16   least one profile has been distributed.

33. The electromagnetic medium of claim 32, wherein calculating the effect of adding the next employee includes redistributing available work among the at least one queue, and recalculating a workload remaining.

34. The electromagnetic medium of claim 30, wherein the characteristics further include:

shrinkage, wherein shrinkage comprises various categories of time for which an employee is paid, but during which the employee does not work;

burden, wherein burden comprises various categories of expenses associated with the employee, including benefit expenses; and

wage.

35. The electromagnetic medium of claim 30, wherein specifying characteristics further comprises specifying whether a profile may be hired into, and a time period required to bring an employee hired into the profile to a predefined level of efficiency.

36. The electromagnetic medium of claim 30, further comprising displaying the calculated effect of the long-rang staffing plan, comprising displaying for each queue of the at least one queue for each of a plurality of predefined time periods:

a contact volume;

a predefined average handling time goal;

an actual service level; and

a required service level.

1   37.   The electromagnetic medium of claim 36, wherein displaying further

2   comprises displaying calculated effects of more than one staffing plan on a single

3   display for comparison.

1   38.   The electromagnetic medium of claim 37, wherein the calculated

2   effects of each of the more than one staffing plan are arranged as rows and columns,

3   and wherein displaying comprises placing corresponding rows from calculated effects

4   of each of the more than one staffing plan in proximity to one another.

1   39.   The electromagnetic medium of claim 37, wherein the calculated

2   effects of each of the more than one staffing plan are arranged as rows and columns,

3   and wherein displaying comprises placing corresponding columns from calculated

4   effects of each of the more than one staffing plan in proximity to one another.

1   40.   The electromagnetic medium of claim 31, wherein the estimated cost

2   of the long-range staffing plan includes a training cost that reflects a period of time

3   required for an employee to reach a predefined level of performance.

1   41.   The electromagnetic medium of claim 32, wherein the contact center

2   comprises multiple queues and multiple types of contact media, wherein the skill set

3   includes skills across multiple queues and multiple contact media.

1   42.   The electromagnetic medium of claim 41, wherein iteratively

2   calculating effects of adding the additional employees taking into account each

3   employee already added includes assigning additional employees across multiple

4   queues and multiple contact media.